

NOTE TO PTO PERSONNEL:

THIS PATENT APPLICATION IS BEING

FILED WITH SMALL ENTITY STATUS

TITLE: ILLUMINATION UMBRELLA

FIELD OF THE INVENTION

This invention relates to an illumination umbrella, and more particularly to an illumination umbrella having acrylic light tubes with bubbles therein, diodes to send
5 bright light through reflection of the bubbles, and a power supply being able to disengage for maintenance.

BACKGROUND OF THE INVENTION

There are a number of umbrellas on the market. One type of which is a standing type umbrella, which can block the sun and rain. This umbrella comprises a raft
10 with retractable skeletons secured on the top end. Each skeleton is connected with a rib to facilitate expansion of the skeletons. A cloth is evenly secured on the skeletons by means of sleeves. However, when the party is at night or when there is a dark cloud, a lighting device must be provided in order to light the area for safety and comfort purposes. Owing to this, an illumination umbrella is produced, which
15 comprises a bar with a handle at the lower end of the bar. A skeleton is connected with a number of side rods. All the side rods are connected to an upper net of the top end of the bar. A number of lower rods are connected to the side rods and a lower net of the bar in a sliding manner. A lighting device is attached to the top of the bar, and a power supply is attached to the handle of the umbrella to trigger the
20 lighting system.

The above-mentioned product uses diodes to emit light in direct method, which cannot pinpoint on any direction. The lighting is not appropriate.

SUMMARY OF THE INVENTION

It is the primary object of the present invention to provide an illumination
25 umbrella, which light is accumulated and shining towards a single direction.

It is another object of the present invention to provide an illumination umbrella, which is easy to maintain.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the present invention;

5 FIG. 2 is an enlarged view of a power supply of the present invention;

FIG. 3 is an enlarged view of a fixture of the present invention, and

FIG. 4 is an enlarged view showing the assembly of light tubes of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in Fig. 1, the present invention comprises a raft 1, a cloth 2, fixtures 3, light tubes 4, and a power supply 5.

5 The raft 1 has a plurality of retractable skeletons 11 connected to the top end thereof. Each skeleton 11 is connected with one end of a side rod 12. The other end of the side rod 12 is connected to the raft 1. The raft 1 further comprises a blind hole as a hook 13 at the center portion thereof, as shown in Fig. 2.

The cloth 2 spreads to cover the skeletons 11 of the raft 1, having formed with a sleeve 21 at the edge corresponding to the end of each skeleton 11.

10 The fixtures 3, as shown in FIG. 3, sleeve onto the skeletons 11 of the raft 1. Each fixture 3 has a hole 31 and a clip 32 at the bottom end thereof.

The light tubes 4 are made of acrylic material with a number of bubbles 41 therein and are secured to the clips 32 of the fixtures 3, respectively. Each light tube 4 comprises a light emitting diode 42 at one end, as shown in FIG. 4. Each light tube
15 4 has a power cord 43 which will be formed in a bundle of electric wire 44 by collecting all the power cords 43 of the light tubes 4. The other end of the electric wire 44 is formed with a plug 45, as shown in Fig. 2.

The power supply 5 is hanged on the hook 13 of the raft 1, which may either be battery or heat energy, etc. The power supply 5 comprises a socket 51 for the plug
20 45 of the electric wire 44 to plug therein. The power supply 5 has a stud 52 at the rear end.

To assemble the present invention, separate the side rods 12 and the skeletons 11 from the connection, insert each skeleton 11 into the hole 31 of each fixture 3, then connect each skeleton 11 with the side rod 12, respectively, and spread the cloth 2
25 onto the skeletons 11 with the sleeves 21 secured to the ends of the skeletons 11, thus when the skeletons 11 are in open status, an umbrella is formed. Secure each light tube 4 with the clip 32 of the fixture 3 at the lower end of each skeleton 11,

hang the stud 52 of the power supply 5 to the hook 13 of the raft 1 with the plug 45 of the electric wire 44 inserting into the socket 51 of the power supply 5 to provide electricity to each light tube 4. The design of the raft 1 and the cloth 2 are identical to the conventional product.

- 5 To operate the present invention, switch the power supply 5 on to transmit electricity through the electric wire 44, the power cords 43 to the light emitting diode 42 in each light tube 4 to light up. The light in the light tubes 4 will be reflected by the bubbles 41 in the light tubes 4 to shine the direction underneath the umbrella. When the power is running short, simply unplug the plug 45 from the
- 10 socket 51, pull the stud 52 away from the hook 13 of the raft 1 to recharge or to maintain, as necessary, and place back to the raft 1 after recharge.